Developing Operational Tactics against Infrared Missile Threats

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This paper demonstrates how the operational community bolsters aircraft survivability against the infrared (IR) missile threat by using engineering test data to modify flying tactics, techniques, and procedures (TTPs). Test data used in this example was obtained from a 1994 joint test and evaluation program, "Infrared Band IV Static Seeker Flyby Test" (Normally referred to as BAND IV). Seeker responses of nine IR missiles, including the US Basic Stinger, Stinger RMP, and other foreign systems, were evaluated against a full range of US military aircraft including the subject of this paper, the B-52H. A total of 137 missions were flown against ground mounted IR seekers. Aircraft included helicopters, attack aircraft, fighters, transports, and bombers. Each seeker was evaluated on its ability to establish and maintain lock on the target aircraft while the aircraft deployed flares, used jamming, employed both flares and jamming, or used flares and maneuver. Benign environments, those without countermeasures, were also evaluated for control purposes. As a result of these static flyby tests, training procedures, flying tactics, flare loads for expected threats, and flare dispense sequences were modified to improve operational counters to the IR missile threat.

This paper explores the results of the BAND IV test as they relate to the B-52H. More specifically, it relates BAND IV test results to subsequent changes in TTPs of operational B-52H crews. Combat procedures followed by operational aircrew are documented in tactics manuals or mission guides. These references are written and maintained by operational flyers using data, such as test reports, provided by the technical community. The BAND IV test highlighted mistakes in B-52 tactics, shortfalls in crew training, and strengths that could be exploited. The improvement processes followed by the B-52 community are indicative of those followed by the combat air forces (CAF) during the tactics improvement process and emphasize the criticality of alignment between the non-operational and warfighting communities. The paper is a primer for operational aviators to understand where the information that drives TTP changes comes from, and for the non-operational test community to see what the operational community does with the data they provide.

Biography of Presenter

Name: Major Robert Mann
Organization: 49th Test and Evaluation Squadron
Position: Operational Test Flight Commander

Education:
-BA, History from The Citadel 1987
-Master of Aeronautical Science from Embry-Riddle University 1996
-Graduate, United States Air Force Weapons School 1995

Experience:
-3000 hours in the B-52G and B-52H
-26 combat sorties in DESERT STORM
-Chosen by Air Combat Command to mentor the bomber mission planning cell during the switch from cruise missile operations to gravity weapons during ALLIED FORCE
-Three times chosen to work on the rewrite of the B-52 tactical employment manual
-Operational flight test from 1995 to present

APPROVAL FOR PUBLIC RELEASE

The above abstract, *Developing Operational Tactics against Infrared Missile Threats*, by Major Robert W. Mann, has been reviewed for classified material.

The abstract is unclassified and cleared for public release.

Certifying Official

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